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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/099,916

03/14/2002

John H. Oates

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3588

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02/03/2006

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EXAMINER

HOQUE, NASRIN

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/099,916	<b>Applicant(s)</b> OATES, JOHN H.	
	<b>Examiner</b> Nasrin Hoque	<b>Art Unit</b> 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1,3-10,12-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s)    is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-20 is/are allowed.
- 6) ☒ Claim(s) 1,3-10, 12-14 is/are rejected.
- 7) ☒ Claim(s) 16-20 is/are objected to.
- 8) ☐ Claim(s)        are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No.       .
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>      </u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                     |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/17/2006</u> | 6) <input type="checkbox"/> Other: <u>      </u>  |

### **DETAILED ACTION**

1. The claims submitted on 11/18/2005 has been entered and made of record. **has Examiner has noted and considered following based on the applicant's remarks /amendments from 11/18/2005:**

- Remarks regarding the amendment to claims for typographical error and corrected-drawing, has been considered by the examiner.
- Applicant did not address in his remark to the outstanding office action i.e. claim rejection, 112 1<sup>st</sup> and 2<sup>nd</sup> paragraph rejections.
- Applicant had indicated that claim 21 has been cancelled. The original application had 20 claims; so this remark is irreverent with this application and examiner has no way to address this.

**Therefore no response to the applicant's remark is required.**

### **Claim Rejections - 35 USC § 112**

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 6 does not specify composition (and decomposition) of rectangular and triangular components, which fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7-9 are rejected due to their dependency on claim 6.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3, 4, 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3, 4, 13 and 14 do not specify "detection statistics".

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being unpatentable over Affes in view of Papasakellariou (Pub #: 2001/0053177). Gaffes discloses that waveforms support of plurality of users and being distributed for parallel computation executing the plurality units (Gaffes: Fig 1, Fig 5, Fig 9, Fig 49, [00117-0119], [0201], [0487], [0490]).

Affes does not explicitly disclose cross correlation-ship.

Papasakellariou discloses that cross correlation-ship for one row in the matrix (Papasakellariou : Fig 1, [0076] – [0081]). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that implementation of cross correlation allows the flexibility to support improved interference handling by further processing.

- Regarding claim 10, it is inherent that assembling of computed portions must have been supported and time-lags and code sequences are being supported as reflected (2002/0051433 : Fig 49, [blocks 120, 45, [0490] , [0502]) per claimed.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Affes, Papasakellariou and further in view of Faruque (US patent No 6,647,059). Regarding claim 3 (which inherited from claim 1), Affes discloses all subject matters (as applied to claim 1) except generation of detection statistics for cross correlation matrix. The office has interpreted that the matrix refers to voice and data to the type of user class the user belongs. Faruque discloses that in CDMA, voice and data can be supported in the multi

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user environment and can be separated for processing via different network elements (Faruque: Fig 1, column 2, line 65-67 and column 3, lines 1-15) which can be considered as being equivalent of detection via cross section methodology. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that a communication technology for voice and data can be supported with advanced CPE and modified network architecture (i.e. new network elements, for example DSLAM etc.) without having significant interference.

9. Claims 4-5 and 12 -14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Affes, Papasakellariou, Faruque and further in view of Suzuki (patent No: 6,600,729).

- Regarding claims 4 and 14 (which inherited from claim 3, 13). Affes and Faruque disclose all subject matters (as applied to claims 1-3,10) except estimation. The office has interpreted “estimation based on detection statistics” refers to error estimation. Suzuki discloses that an error estimator can be used to perform phase correction (Suzuki: Fig 3, column 10, lines 37-47). At the time of the invention, it would have been obvious to a person of ordinary skill that for improved communication system, via design choice error can be estimated and can be used to provide phase correction in multi user environment.

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- Regarding claims 5 and 12 (which inherited from claims 4 and 10 respectively), the office has interpreted that a metric refers to interference generation and spread sequences. Suzuki further discloses that the relationship between previous user/ state and present user/state per claimed (Suzuki: Fig 3, column 10, lines 53-59). At the time of the invention, it would have been obvious to a person of ordinary skill that via design choice cross correlation values can be calculated in advance to support improved method of calculating the cross correlation to provide correlation per system requirement, if needed.
  
- Regarding claim 13 (which inherited from claims 12), the office has interpreted that the matrix refers to voice and data to the type of user class the user belongs (as explained in paragraph 9). Faruque discloses that in CDMA, voice and data can be supported in the multi user environment and can be separated for processing via different network elements (Faruque: Fig 1, column 2, line 65-67 and column 3, lines 1-15).

***Allowable Subject Matter***

10. Claims 16 - 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art fails to teach the above.

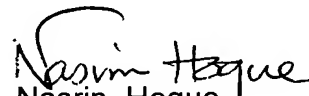
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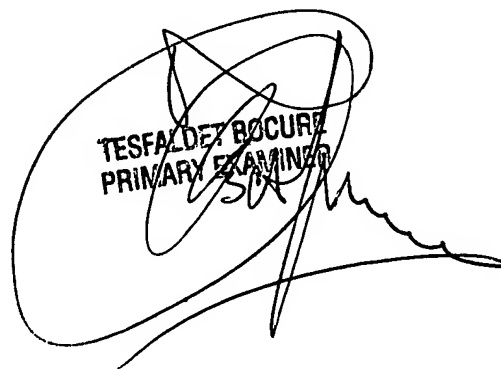
**Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nasrin Hoque whose telephone number is 571-272-5948. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tesfaldet Bocure can be reached on 571-272-3015. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Nasrin Hoque  
Examiner  
Art Unit 2631

  
TESFALDET BOCURE  
PRIMARY EXAMINER